

ABSTRACT

An apparatus and method for generating finite impulse response (FIR) filter coefficients are presented. The apparatus includes an address generator that multiplies a desired cutoff frequency f by an integer n to generate an address, a first look-up table that generates a sine function value of the address, a divider that divides the sine function value by $n\pi$, a multiplexer that generates an impulse response function value by selecting one of a value produced from the divider and $2f$ based on an outside control signal, and a multiplier that multiplies the impulse response function value by a corresponding window function value to generate an n th filter coefficient for the FIR filter.